AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph at page 57, line 13 to page 58, line 10, with the following amended paragraph:

It should be apparent to those of ordinary skill in the art that other arrangements of search arrays 516 can be generated by searcher 502 and sorter 504, and accessed by pulse locator 506 in alternative embodiments of the present invention. For example, in one alternative embodiment, search arrays 516 do not include a cross-reference array 514. In such embodiments, sort index array 512 is searched directly for the sort index associated with a given subset index. Referring to reference arrows 7A and 7B in Figure 6, for example, when the user advances the subset index 608 from 3 to 4 to display pulse number 324, the sorted sequence number 708B of 6 is displayed with the occurrence number 706B of 4. Rather than obtaining the sort index number 612 from cross-reference array 606, pulse locator 506 searches subset array 604 for subset index 608 of 4. When located, the associated sort index 612 of 6 is retrieved from sort index array 604 for display. In other words, the memory and time associated with the generation of cross-reference array 606, and the processing represented by arrow 640 need not be performed. On the other hand, additional processing operations to search sort index array 604 would be implemented to perform the above function. Thus, tradeoffs can be made between the number and complexity of the search array data structures and the processing time that may be required to locate the indices contained therein. Other embodiments implementing different tradeoffs between the costs associated with algorithm processing time and data structure generation and maintenance are considered to be within the scope of the present invention. Other implementations of search arrays 516 are also contemplated. For example, sort index array 512 can be implemented to associate a sort index with pulse number 404 rather than with a subset index. Referring to Figure 6, for example, the processing associated with arrow 642 is eliminated in such an embodiment. In a further embodiment, subset array 602 is eliminated, and pulse locator 506 would access pulse data array 206 each time an occurrence number or sort occurrence number are adjusted by the operator. In sum, then, the arrangement of search arrays 516 shown in Figures 5 and 6 are exemplary only as there are a myriad of alternative approaches each satisfying the needs of a different application.

Please replace the paragraph at page 58, line 12 to line 21, with the following amended paragraph:

In accordance with the illustrative embodiment, the operator may also select a pulse not by its search and sort order or pulse number, but rather by its relative time occurrence. To provide such a capability, pulse analyzer 204 includes a time finder 508. Time finder 508 receives as an input operator-generated time value 532. In one embodiment, this is the horizontal position (delay) that the operator can select through front panel or graphical user input controls. Thus, the operator can drive the delay ~~control 440~~control 540 directly to set the center of the display at the specified time ~~value 432~~value 532. In addition, user interface 116 displays a data entry dialog box in which the operator can enter a desired time value 532. In the embodiment illustrated in Figures 7A-7C, the operator may enter the time value in pulse selection window 702A-702C.

Please replace the paragraph at page 59, line 4 to line 10, with the following amended paragraph:

Figure 13 is a flow chart of the processes performed in accordance with one embodiment of the present invention to analyze one or more pulses in acquired data 208. At begin block 1302, ~~process 1300~~ the process outlined in Figure 13 is invoked by the operator through graphical user interface 116. For example, the operator may select a menu item in a pull-down menu to invoke ~~process 1300~~the process. Alternatively, ~~process 1300~~the process may be invoked automatically and without operator intervention in response to the completion of process 1200.

Please replace the paragraph at page 59, line 11 to line 15, with the following amended paragraph:

At block 1304 pulse manager 118 provides the operator with the opportunity to specify the criteria with which pulse data ~~array 208~~array 206 is to be searched, and receives the search criteria. With search criteria, the subset index array is computed at block 1306.

The subset index array is, as noted, an array of values that identify those pulses that satisfy the specified search criteria.

Please replace the paragraph at page 61, line 5 to line 11, with the following amended paragraph:

Pulse data such as pulse number, total number of pulses, occurrence number, sorted occurrence number and total number of occurrences are displayed at block 1410. Such information is described in detail above. It should be understood that the content and scope of the displayed pulse data may vary depending on the application. For example, if there are additional pulse analysis operations such as searching, sorting, filter, categorizing, tagging, etc., are performed, then information associated with such functions is also displayed. The process ends when block 1412 is reached.

Please replace the paragraph at page 61, line 18 to line 23, with the following amended paragraph:

In response to the request made at block 1502, a dialog ~~box~~ box 1504 is displayed in which the operator enters the criteria that is to guide the search. One such dialog box was described above. Other graphical features may be displayed to enable the operator to provide such search criteria through the user interface. In addition, such a graphical specification may include the identification of a desired one of one or more stored search criteria files. The search criteria is received at block 1506.

Please replace the paragraph at page 62, line 13 to line 16, with the following amended paragraph:

At block 1518, then device waits for the operator to make a selection on the graphical user interface 116 to change the displayed data. When such occurs, processing advances to ~~block 1518~~block 1516 at which the display pulse dialog box is displayed with the pulse information associated with the new desired pulse.